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BOOK REVIEW

Michael Ruse (Ed.) *The Cambridge Encyclopedia of Darwin and Evolutionary Thought*

Cambridge University Press, Cambridge, 2013, 583 pp, price: £120.00, ISBN: 9780521195317

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The year 2009 was a double Darwin anniversary that everyone in the world must have become aware of. Being interested in the subject, I purchased every new, or revised, edition of any book on Darwin and evolution. Some examples that immediately come to mind are *Charles Darwin: On The Origin of Species* (Endersby 2009), *The Cambridge Companion to the "Origin of Species."* (Ruse and Richards 2009), *Evolution: The First Four Billion Years* (Ruse and Travis 2009), *Monad to Man: The Concept of Progress in Evolutionary Biology* (Ruse 2009), *The Cambridge Companion to Darwin* (Hodge and Radick 2009) or *Evolution: The History of an Idea* (Bowler 2009). And there was more of course. Not surprisingly, Michael Ruse was the editor and author of many of these books. Ruse is a prolific writer who has written more single authored books than most scholars in this field, and so his enormous productivity during the Darwin anniversary was something to anticipate. With all these books, though, would it be an exaggeration to rest assured that everything to be written about Darwin and the history of evolution was already written by 2009? Perhaps I could be confident that this was the case.

But I would be wrong. And least expectedly, but again not surprisingly, it was Michael Ruse who is behind the new accomplishment: The Cambridge Encyclopedia of Darwin and Evolutionary Thought (hereafter CEDET). In this review, I will not comment on the quality and the contents of the book; one need only read the table of contents in order to realize that expert scholars are writing about the most important aspects of the topic that the title indicates: Darwin and evolutionary thought (see Table 1). What is astonishing however, and particularly important for an encyclopedia, is the breadth of coverage and the illustrations. The books cited above are excellent, but none of them covers so many different aspects and topics of Darwin and evolution, nor do they provide the reader with the high quality illustrations, many of which in color, that one finds in the CEDET.

Let us start with the contents (Table 1). Yes, we find again Jon Hodge writing about how Darwin came up with the idea of natural selection; and Robert Olby writing about Darwin and heredity; and Tim Lewens writing about Darwin and philosophy, and Betty Smocovitis writing about Darwin and botany. So what? It is no big problem to read the

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Table 1 The table of contents of The Cambridge Encyclopedia of Darwin and Evolutionary Thought

Preface introduction
1. Ancient Greece—Jeremy Kirby
2. Evolution before Darwin—Michael Ruse
3. Darwin, geology—David Norman
4. Paleontology, evidence—Paul Brinkman
5. Darwin, the route to discovery—Jon Hodge
6. Darwin and taxonomy—Mary P. Winsor
7. Darwin and the barnacles—Marsha Richmond
8. Artificial selection and natural selection—Bert Theunissen
9. The Origin of Species—Michael Ruse
10. Sexual selection—Richard Richards
11. Darwin and species—James Mallet
12. Darwin and heredity—Robert Olby
13. Time—Keith Bennett
14. Darwin and flowers—Rich Bellon
15. Early mimicry and adaptation—William Kimler and Michael Ruse
16. Chance—John Beatty
17. Teleology—Jim Lennox
18. Six editions of Origin—Thierry Hoquet
19. Alf Wallace—John van Wyhe
20. Darwin and humans—Greg Radick
21. Language—Stephen G. Alter
22. Darwin and morality—Eric Charmetant
23. Social Darwinism—Naomi Beck
24. Darwin and the levels of selection—Brian Hollis, Dan Deen and Chris Zarpentine
25. Darwin and religion—Mark Pallen and Alison Pearn
26. Post-Darwin: United Kingdom—Peter Bowler
27. Post-Darwin: America—Mark Largent
28. Post-Darwin: Germany—Bob Richards
29. Post-Darwin: France to 1900—Jean Gayon
30. Post-Darwin: China—Haiyan Yang
31. Post-Darwin: South America—Thomas F. Glick
32. Botany, early history—Dawn Digrius
33. Population genetics—Michael Ruse
34. Synthetic theory—Joe Cain
35. Ecological genetics—David Rudge
36. Post-Darwin: France post 1900—Jean Gayon
37. Botany, later history—Betty Smocovitis
38. Origin of life—Iris Fry
39. Testing—Steve Orzack
40. Mimicry and camouflage—Joe Travis
41. Tree of life—Joel Velasco
42. Sociobiology—Mark Borrello
43. Paleontology, interpretations—David Sepkoski
44. Darwin and geography—David Livingstone

Table 1 continued

45. Darwin and the finches—Fritz Davis
46. Evo devo—Manfred Laubichler and Jane Maienschein
47. Evolutionary ecology—Jack Justus
48. Environment—David Steffes
49. Darwin and molecular biology—Francisco Ayala
50. Darwinian expansions—David Depew and Bruce Weber
51. Paleoanthropology—Jesse Richmond
52. Language today—Barbara J. King
53. Cultural evolution—Ken Reisman
54. Literature—Gowan Dawson
55. Gender—Georgina Montgomery
56. Philosophy-epistemology—Tim Lewens
57. Philosophy-ethics—Richard Joyce
58. Religion, Protestantism—Diarmid Finnegan
59. Creationism history—Ron Numbers
60. Religion, Catholicism—John Haught
61. Religion, Jewish—Marc Swetlitz
62. Religion, Islam—Martin Riexinger
63. Medicine—Tatjana Buklijas and Peter Gluckman

same people writing in CEDET about the same topics they have already written in the Cambridge Companions for three reasons: (1) these are experts and so one had better read the experts on each topic anywhere, (2) the essays in the CEDET are written for a wider audience compared to the Companions, and (3) there are so many and so beautiful illustrations (more on this point in the next paragraph). What is even more important is that there is much more in a single book. Starting with ancient Greece and evolution before Darwin, the CEDET includes many chapters on the man and his work: geology, paleontology, taxonomy, the route to natural selection, the barnacles, artificial and natural selection, sexual selection, species, heredity, flowers, chance or teleology. There is also a chapter by the editor on *The Origin of Species* and another one on its 6 editions. The book also includes chapters on the multiple influences of *The Origin* on the perception of humanity, as well as on language, morality, religion and much more.

With all that, we are not yet halfway through the book. Several chapters that follow focus on the reception of Darwin's theory in United Kingdom, America, Germany, France, China, and South America. There are also two chapters on botany and several chapters on important evolutionary topics of the twentieth century: population genetics, the synthetic theory, ecological genetics, the origin of life, mimicry and camouflage, the tree of life, sociobiology, paleontology, evolutionary developmental biology, evolutionary ecology and molecular biology, among others. Toward the end of the book, one finds other interesting topics such as cultural evolution, literature, epistemology, ethics and medicine. Not surprisingly, creationism and religion are also discussed with Protestantism, Catholicism, Jewish and Islam each getting its own chapter.

Turning now to the second advantage: the illustrations. But are really illustrations that important? Yes! Because this is an encyclopedia! It is not a technical academic book intended for historians and philosophers but a book that could very well introduce students

and the general reader to the social, cultural, political, scientific contexts of the era. The illustrations serve this purpose very well. There are actually two kinds of illustrations: (1) those, in black and white, which are embedded in the text and (2) those colored ones that are found together in clusters. There are images of the most important historical figures in the development of evolutionary thought—it is hard to think of one who was omitted. But then there is more; one can find Lamarck and Saint-Hilaire but also Herschel and Whewell; there is Dawkins and Gould but also Kimura and Hamilton. But there is also Dickens, Tennyson, Popper, Kuhn and many more. One can also see photos of all 6 different editions of *The Origin*, as well as of most of Darwin's other books.

Finally, one cannot but notice the bibliography included at the end: 35 pages (pp. 515–549) with around 40 references each, including all primary and secondary works relevant to Darwin and the history of evolutionary thought. This is a very valuable list for those who want to delve deeper into this topic (who had better also consult the books cited at the beginning of this review). I will conclude by quoting the preface of the CEDET where the editor summarizes its aims:

> If we do not infect you with our enthusiasm and leave you sharing our conviction, we have failed in our task. What we are not trying to do is convince you that Darwin was always right. He was not. Nor, conversely, are we trying to show you that Darwin was basically wrong. He was not. And we are certainly not trying to show that, right or wrong, overall Darwin's influence is either malicious or overrated. This is not true, although we agree fully that things are far more complex than simple good or ill. Finally, thank goodness, we are not trying to show that everything is known and that everyone agrees. You will see in these pages that often we differ among ourselves about some very important points. This is a good part of what makes it all so exciting. Charles Darwin was one of the towering figures in Western civilization, and his legacy is with us still today. We want to share with you our knowledge and our thrill at great ideas (page xii).

I think that the CEDET is successful in all of its aims, particularly the first and the last one quoted above. The CEDET can infect one with enthusiasm to learn about the era and the man; and when one will have finished reading the book one will have probably acquired the authors' knowledge and thrill about one of the greatest ideas in Western civilization: evolution.

References

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